DRAFT

THE BOEING COMPANY
Manual
OPERATING PROCEDURE
Interdivisional

Replaces 6-6000-500/853-003
6-6000-710
A-6000-217/866-001

SUBJECT: DISPOSAL OF HAZARDOUS CHEMICAL WASTES

AFFECTED ORGANIZATIONS:

Corporate Headquarters
Seattle Services Division
Radiation Control
Security - Fire Protection
Transportation
Reclamation

Aerospace Group
All Divisions
Facilities
Industrial Relations - Industrial Hygiene
Quality Control
Manufacturing
Engineering

Commercial Airplane Group
All Divisions
Industrial Relations - Industrial Hygiene
Manufacturing
Quality Control
Facilities
Engineering

I. PURPOSE

This procedure outlines the method of disposal, control of spills and organizational responsibilities for all water pollutant and hazardous waste materials in the Puget Sound region.

II. POLLUTION CONTROL REGULATIONS

The following statutes and regulations control disposal options:

A. State of Washington Water Pollution Control Laws (Chapter 90.48 RCW)

1. Require Department of Ecology to establish water quality standards.

2. Specify requirement for Waste Discharge Permits.

II. A. (Continued)

3. Provide for penalties and legal action.

4. Authorize Department of Ecology to adopt regulations for control of water quality.

B. State of Washington Department of Ecology Plant Waste Discharge Permit

1. Specifies quality and quantity of waste authorized to be discharged to sewer systems, surface waters and ground waters.

2. Prohibits discharge of detectible oils and solvents.

3. Places limits on pH and on concentrations and quantities of heavy metals, cyanides and other toxicants.

4. Requires facility modifications and procedures for prevention and control of spills and contaminated storm water run off.

C. Atomic Energy Commission and State of Washington Health and Social Services rules governing the disposal of radioactive materials waste.

1. Conditions controlling our radioactive materials waste are contained in a specific license issued to The Boeing Company.

2. Radioactive material waste must be packaged per current Department of Transportation regulations and transferred to an authorized agency for disposal.

III. METHOD OF DISPOSAL

A. Sanitary Sewer System

Process rinse waters and all other wastes meeting the criteria of the waste discharge permit shall be discharged to the sanitary sewer system. Facilities shall be designed so that spills and leaks from chemical processes and other operations will not enter the sewer systems. No-outlet sumps, dikes and other containment means shall be provided as

III. A. (Continued)

necessary to meet this requirement. Where stipulated by the waste discharge permit, 24 hour composite sampling stations shall be installed.

B. Storm Sewer System

Uncontaminated cooling water and storm water runoff only shall be discharged to the storm sewer and surface waters. Any exceptions to this rule must be approved by the Washington State Department of Ecology. Wherever a high potential exists for spillage of oil or solvent into a sewer system, Department of Ecology approved oil interceptors shall be installed. Water soluble chemicals, oils and solvents shall be stored and dispensed in areas with proper containment and weather protection to prevent spills and contaminated storm water runoff from entering the sewer system.

C. Contracted Waste Disposal

1. Chemical Waste

All acids, bases and sludges except those listed below shall be hauled to a chemical waste disposal contractor approved by the State of Washington Department of Ecology. Waste material will be delivered by Boeing Company chemical tank truck to the waste disposal company. Interim storage of waste materials shall be either in the process tank, carboys and drums designed for the materials involved and stored in an approved location, or in waste acid holding facilities specifically designed for this function. Load and unload areas shall be constructed so that spills and leaks are contained.

III. C. 1. (Continued)

All waste materials must be properly identified and approved for disposal by Quality Control prior to being transported.

2. Oil and Solvent Wastes

All waste oils and solvents shall be disposed of through a disposal contractor approved by the State of Washington Department of Ecology. Waste materials shall be placed in 55 gallon drums, tank trailers specifically designed for this function, or when appropriate, disposal contractor's trailer truck. Prior to transporting bungs shall be in place and tight on all drums and all vehicles shall be inspected to insure no leakage.

The reclamation oil and solvent hold area must meet Department of Ecology requirements; i.e., oil and solvents are not allowed in any sewer system. All area drains must be protected with a Department of Ecology approved oil interceptor. Water soluble oils must be located in an area where any leakage or spillage will be contained and there is no storm water runoff.

3. Extra Hazardous Chemicals

Extra hazardous chemicals must be packaged per Industrial Hygiene requirements prior to transporting from the using organization location. Hold areas designated for these materials must be provided whenever they are not sent directly to the disposal contractor. The disposal contractor must be familiar with the material and authorized by applicable governmental agencies for its handling and disposal. Chemicals which fall within this

III. C. 3. (Continued)

category are defined as follows:

1. Highly toxic materials such as beryllium, mercury and carbonyls.
2. Highly reactive chemically materials such as acrylonitrib and halogens.
3. Materials which are sensitive to shock such as ethylene oxide and organic peroxides.
4. Materials whose properties are not well known or understood such as europium nitrate and rubiduim.

4. Radioactive Materials

a. Radioactive material waste (except as shown below) must be packaged per Radiation Health Protection requirements to ensure compliance within conditions specified in our Waste Disposal License. Both primary and secondary packaging requirements are described in Industrial Hazards Control Bulletin No. 77, "Pollution Control--Disposal of Radioactive Material Wastes".

b. Only extremely low quantities of radionuclides may be introduced into streams or public sewers and waterways. The conditions for this type of disposal exist only in cases of rinsing low-level contaminated Lab ware and during airplane decontamination procedures using copious amounts of liquid. Radiation Health Protection will evaluate all sewage disposals prior to their occurence unless extreme emergency conditions exist (fire, explosion, "act of God", etc.).

IV. RESPONSIBILITIES

A. Control of Effluents Discharged to Storm and Sanitary Sewer Systems

	Task	Responsible Organization
1.	Evaluate the nature of waste effluent and determine if waste may be discharged to the sewer system.	Quality Control
2.	Provide necessary facilities, monitoring equipment and controls to prevent unauthorized materials from entering sewer systems.	Facilities Engineering
3.	Secure necessary permits and approvals from regulatory agencies.	Facilities Engineering Pollution Control Engineer
4.	Analyze effluent samples and submit reports required by the waste discharge permit. The reports shall be submitted to the Facilities Engineering focal point immediately of any out of tolerance conditions. Provide additional sample analysis required to determine source and cause.	Quality Control
5.	Determine cause of out of tolerance condition and take action necessary to repair equipment, stop leakage, etc. Secure samples as requested by Quality Control and Facilities Engineering focal point.	Plant Services
6.	Forward monthly chemical analysis report to the Department of Ecology Regional Engineer. Explain cause of out of tolerance condition and actions taken to prevent recurrence.	Facilities Engineering Pollution Control Engineer

IV. (Continued)

B. Control of Disposal of Waste Process Solutions

	Task	Responsible Organization
1.	Immediately report overfilled, contaminated, deactivated or leaking process solutions to the Quality Control Chemical Laboratory. In the event of any leakage or overfilled condition the Plant Services Dispatcher shall also be notified immediately. NOTE: If any overfill or leaking condition could cause the process solution to enter any sewer system it shall be handled as a spill per Section IV.F.	Using Organization
2.	Write a "Dump Letter" (Exhibit A) to using organization, Plant Services, Licensed Transportation, Line Quality Control and Industrial Hygiene when a process solution required draw-off or dumping.	Quality Control Chemical Lab
3.	Fill out a "Waste Load Ticket" (Exhibit B) when the "Dump Letter" requires tanker truck transportation.	Quality Control Chemical Lab
	(a) Enter "Ticket Number", "Dump Letter" reference number, "Deliver to", "Type of Solution" and "Reported By".	Quality Control Chemical Lab

IV. B. 3. (Continued)

Task	Responsible Organization
(b) "Date", "Time Out", "Tanker No.", "Time In", "Number of Gallons of Liquid", truck number and driver's signature.	Licensed Transportation Driver
4. Transfer chemical solution from process tank to tanker and clean up.	Plant Services
5. Inspect tank truck for leakage prior to proceeding to disposal contractor.	Transportation Driver
6. Transport wastes to disposal contractor in accordance with government and Company regulations.	Licensed Transportation
7. Contract for disposal of liquid wastes (including extra hazardous and radioactive wastes) by outside disposal contractor. Coordinate with responsible Facilities Engineering focal point.	Licensed Transportation
8. Budget for and approve payment of liquid waste disposal fees.	Licensed Transportation

C. Disposal of Laboratory Wastes Less than Ten Gallons, Except Radioactive Wastes

1. Each laboratory shall have at least two polyethylene bottles, 10 gallons or less. One bottle shall be labeled "Acid Waste" and the other bottle labeled "Cyanide and Alkaline Wastes".

(a) Bottles requested by — Using organization

IV. C. 1. (Continued)

Task	Responsible Organization
(b) Furnished by	Facilities Engrg.
(c) Distributed and maintained by	Plant Services
2. All wastes shall be placed in the labeled bottles. Be very careful to prevent putting cyanide or acid in the wrong bottle.	Using organization
3. When bottles are full, notify Quality Control Lab for authorization to dispose of waste chemicals.	Using organization
4. Prepare dump letter authorizing disposal and provide disposal instructions.	Quality Control Lab
5. Transport waste to hold area	Facilities - Material Handling
6. Transport to disposal contractor	Licensed Transportation
D. Disposal of Oil and Solvent Wastes	
1. Transport all waste oils and solvents to salvage or disposal contractor in drums with bungs in place and tight, tank trailers specifically designed for this function, or in oil tank trucks. Prior to transport, all containers must be inspected to insure no leakage.	Facilities Material Handling Licensed Transp.
2. In the event of a spill, the spilled material shall be absorbed with Speedy-Dri, rags or similar type materials and placed in leak tight barrels or tub skids. When stored exterior to buildings these containers shall be	Using organization

IV. D. 2. (Continued)

Task	Responsible Organization
protected from storm water run-off by covering with polyethelene or suitable materials. Disposal of Speedy-Dri shall be to a sanitary land fill, hauled in normal Boeing compactor garbage truck. Rags shall be sent to reclamation.	Using organization
3. Metal shavings and chips shall be placed in leak tight tub skids or barrels and covered with polyethelene sheets for transportation to salvage.	Facilities Material Handling
E. Extra Hazardous Chemicals Except Radioactive Waste	
1. Identify unknown material.	Quality Control
2. Prepare material for transporting to hold area. For assistance in determining method of packaging contact Industrial Hygiene.	Using organization
3. Construct special packaging crates.	Facilities Plant Services
4. Attach hazardous waste warning tag.	Using organization
5. Inspect material, container and packaging for compatibility prior to transporting. Sign hazardous material warning tag. Material shall not be transported unless tag is completed and signed.	Using organization Supervisor

IV. E. (Continued)

	Task	Responsible Organization
6.	Designate hazardous waste material hold area. Secure approval for function from Industrial Hygiene and Security-Fire Protection and Facilities Pollution Control Engineer.	Facilities Engrg.
7.	Contract with disposal firms for disposal of the various categories of hazardous material. Facilities Pollution Control Engineer shall provide assistance in selection and negotiating with contractor.	Licensed Transportation
8.	Notify Licensed Transportation as to type of of material and when it is ready for shipment.	Industrial Hygiene
9.	Contact disposal contractor for pick up of material or transport to disposal site.	Licensed Transportation

F. Radioactive Wastes

1.	Primary Packaging - including material identity and proper labeling (for assistance in determining method of packaging or special containment requirements, contact Radiation Health Protection).	Using Organization
2.	Transferring Primary Packaged Waste from Using Organization to temporary approved storage area.	Radiation Protection Transportation
3.	Furnishing/Constructing Special Containers for both primary and secondary packaging operations.	Facilities Plant Services

IV. F. (Continued)

Task	Responsible Organization
4. Secondary Packaging.	Radiation Protection
5. Arranging for Transfer to Authorized Disposal Agency.	Radiation Protection
6. Contracting Authorized Disposal Agency for disposal of radioactive materials waste.	Licensed Transportation
7. Assuring compliance with applicable Atomic Energy Commission, Washington State Health and Social Services, and Department of Transportation Rules and Regulations. This includes adherence to material possession limitations, packaging and transportation requirements, adequate personnel/equipment/environmental safeguards, and maintaining records to confirm compliance within these limitations.	Radiation Protection

G. Control of Spills

1. Immediately report a spill of any pollutant or hazardous material which may enter a sewer system, surface water, or which may endanger life or property to the Boeing Emergency Dispatcher, phone number: Renton 7-2222; Kent 3-2222; EMF, Plant II and D.C. 6-2222; Everett 2-2222; Auburn 2222.	Using Organization
2. In order, inform the following organizations: Security-Fire Protection; Facilities - Plant Services Dispatcher; Facilities - Plant Engineering. Representatives from these organizations	Boeing Emergency Dispatcher

IV. G. 2. (Continued)

	Task	Responsible Organization
	will proceed immediately to the location of the spill.	Boeing Emergency Dispatcher
3.	Take whatever action possible to prevent material from entering sewer system until help arrives such as: seal drain with PVC; divert material with rags and Speedy-Dri, etc. Do not flush with water.	Using Organization
4.	Determine if situation endangers life or property. If it does, take charge and direct the control and clean-up effort. Do not flush to sewer unless absolutely necessary.	Security-Fire Protection
5.	Determine method of neutralization and treatment if necessary. Requested by Security-Fire Protection or Facilities Plant Services.	Quality Control
6.	During emergency provide assistance as required to Security-Fire Protection. If life or property is not in jeopardy, take charge, contain and clean up the spill.	Facilities Plant Services
7.	If pollutant materials enter the sewer system or surface waters, evaluate the impact and report incident to the Department of Ecology Regional Engineer and if necessary the municipal sewer system personnel.	Facilities Engineering Pollution Control Engineer

IV. G. (Continued)

Task	Responsible Organization
8. Complete a written report within (5) days of the spill and transmit the memo to the Facilities Engineering manager. The report should contain an accurate description of the spill and recommendations for preventing a recurrence.	Using Organization Plant Services Fire Protection
9. Evaluate data as to cause of spill and take action necessary to prevent a recurrence; i.e., change operating procedure, modify equipment, or facilities.	Facilities Engineering

EXHIBIT A
Sample Dump Letter

DATE _____

No. _____

To: Licensed Transportation
Plant Services
Industrial Relations
Safety
Industrial Hygiene

From: Quality Control Laboratory

Subject: _____

Due to _____ the subject solution(s) of _____ gallons:

Shall be pumped to the plastic lined waste tank. (_____)

Shall be pumped to the _____ lined tank truck. (_____)

Shall be pumped into containers labeled "Waste Cyanide" (_____)

Draw-off of _____ gallons shall be made.

The waste solution shall be sent to the _____

The solution contains _____

Consult Industrial Hazards Control Bulletin(s) number _____ for handling precautions. The provisions of Operating Procedure 6-6000-007 apply to this operation.

The tank will be thoroughly cleaned, and upon Chemical Laboratory approval, recharged in accordance with specification _____. The following chemicals will be needed: _____

All personnel shall wear gloves, aprons, face shields, arm guards, respirators and use any other safety equipment deemed necessary. The operation is scheduled for _____

_____

_____

Supervising Engineer

EXHIBIT B

THE BOEING COMPANY
COMMERCIAL AIRPLANE DIVISION
RENTON, WASHINGTON 98055

TICKET NUMBER

WASTE LOAD NOTICE

DUMP LETTER REF. NO. (FOR CHEMICAL SOLUTIONS)

DELIVER TO:	TANKER NO.

DATE	TIME OUT	AM PM	TIME IN	AM PM

LOCATION

NUMBER OF GALLONS OF LIQUID	TYPE OF SOLUTION(S)

REQUESTED BY
TRUCK NUMBER
DRIVER'S SIGNATURE

ROUTING:
WHITE - TO SHIPPER
CANARY - TO VENDOR